

## REMARKS

This is intended as a full and complete response to the Final Office Action dated September 22, 2006, having a shortened statutory period for response set to expire on December 22, 2006. Please reconsider the claims pending in the application for reasons discussed below.

In the specification, paragraph [0019] has been amended to explicitly provide enablement for an optical waveguide having a core and a cladding. No new matter has been introduced by the amendments since U.S. Application Serial No. 09/455,868 was incorporated by reference in the application as filed.

Claims 1-21 and 23-30 remain pending in the application and are shown above. Claims 1-21 and 23-30 are rejected by the Examiner. Reconsideration of the rejected claims is requested for reasons presented below.

### ***Claim Objections***

Claims 1-21 and 23-30 are objected to as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. The Examiner indicates that it is not clear whether, or to what extent, the cladding would be removed around the core.

Applicants respectfully submit, however, that it is clear that the cores are at least exposed at the distal ends or the claimed fusing operation would not yield a useful apparatus. Applicants further submit that it would be obvious to one skilled in the art that in order to splice or fuse two optical waveguide sections for successful transmission through the resulting apparatus, at least the distal ends of the respective cores being aligned would need to be exposed (*i.e.*, not coated by a cladding).

Accordingly, Applicants submit these claims do particularly point out and distinctly claim the subject matter which Applicants regard as the invention and respectfully request withdrawal of this objection.

### ***Claim Rejections under 35 U.S.C. § 103***

Claims 13 and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Walters* (6,033,515 (hereinafter, "*Walters*")) in view of *Maas et al.* (5,157,751 (hereinafter, "*Maas*")). Claims 13 and 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Chapman et al.* (2003/0223712 (hereinafter, "*Chapman*")) in view of *Maas*. Claims 1-3, 6-7, 9, 12-18 and 23-25 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Chapman* in view of *Maas*, in further view of *Walters*. Claims 1, 4-5, 13, 20-21 and 27-28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Chapman* in view of *Maas*, in further view of *Walters*, in further view of *Eskildsen et al.* (2003/0108307 (hereinafter, "*Eskildsen*")). Claims 1, 8, 10-11, 13, 19, 21, 26 and 29 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Chapman* in view of *Maas*, in further view of *Walters*, in further view of *Huang et al.* (2003/0117856 (hereinafter, "*Huang*")). Applicants respectfully traverse the rejections.

The Examiner bears the initial burden of establishing a *prima facie* case of obviousness. See MPEP § 2142. To establish a *prima facie* case of obviousness three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Third, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See MPEP § 2143.

The combinations of references above fail to meet at least the second and third criterion for establishing a *prima facie* case of obviousness.

In regards to the second criterion, the combinations of *Walters* in view of *Maas*, *Chapman* in view of *Maas*, *Chapman* in view of *Maas* and in further view of *Walters*, *Chapman* in view of *Maas* in further view of *Walters* in further view of *Eskildsen*, *Chapman* in view of *Maas* in further view of *Walters* in further view of *Huang* would not reasonably lead to low optical loss splicing of two optical waveguide sections, each having a core and a cladding, wherein at least one of the optical waveguide sections

has a large diameter. According to paragraph [0005] of the present application, conventional techniques for fusion splicing of optical fiber “are typically limited to fiber diameters of 400 um or less. Modifying devices utilizing these [conventional] techniques to accommodate larger diameters optical waveguides (e.g., of a large diameter carrier and device that may be greater than 1 mm) would present a challenge and may not be feasible, particularly when trying to maintain uniform heating around the entire diameter of the splice area to achieve a strong splice, while also maintaining alignment of the narrow (e.g., 5 um diameter) fiber cores to minimize optical loss through the splice region.”

As to the third criterion, *Walters* in view of *Maas*, *Chapman* in view of *Maas*, *Chapman* in view of *Maas* and in further view of *Walters*, *Chapman* in view of *Maas* in further view of *Walters* in further view of *Eskildsen*, *Chapman* in view of *Maas* in further view of *Walters* in further view of *Huang* do not teach, show, or suggest “splicing...two optical waveguide sections, ***each having a core surrounded by a cladding***,” as recited in independent claims 1 and 13. Furthermore, these combinations of references do not teach, show, or suggest, “fusing first and second optical waveguide sections together, ***each optical waveguide section having a core surrounded by a cladding***” as recited in independent claim 21.

Accordingly, Applicants submit that claims 1, 13, and 21, as well as claims dependent therefrom, are allowable and respectfully request withdrawal of these rejections.

### ***Conclusion***

The references cited by the Examiner, alone or in combination, do not teach, show or suggest the invention as claimed.

Having addressed all issues set out in the office action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



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